Praveen **Kumar**

Computer Science · Machine Learning · Deep Learning · Image processing

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Summary

I am a Engineering student at SSN college of Engineering aspiring to lead my career in the research field. I am improving my skills on Machine Learning techniques and Computer Vision. I am interested in Object detection and Pattern Recognition algorithms. I am currently working on the project 'Automatic Number Plate Recognition System'.

Education

SSN College of Engineering — *9.106 CGPA (III Semester)*

B.E. in Computer Science and Engineering — *Kalavakkam*

2017- present

The Hindu Senior Secondary School — *94.8%*

12th Standard — *Indra Nagar, Chennai*

2016- 2017

The Hindu Senior Secondary School — *9.8 CGPA*

10th Standard — *Indra Nagar, Chennai*

2014- 2015

Experience

ACI Automation Pvt. Ltd., — *255, 2nd Main road, Nehru Nagar, Kottivakkam(OMR), Chennai - 96*

Project Assistant — *Dec 2018 - Present*

- Working with Professor Dr. T.T. Mirnalinee and Dr. P. Mirunalini to create create a Automatic Number plate Recognition System(APNR).
- Build a model that uses both image processing technique and Deep learning techniques to locate the number plate in the given image or given frame of a video.
- Trained OCR to recognize the characters in the number plate after segmentation.

Honors & Awards

2019 **Winner,** Java Coding Competition — *Madras Institute of Technology*

2019 **Winner,** Reverse Coding — *College of Engineering, Guindy*

2018 **Merit Scholarship,** 3rd Rank in I year — *SSN College of Engineering*

2015 **Praveen Uttarardh,** Passed with Distiction (77%) — *Dhashin Bharath Hindi Prachar Sabha*

Skills

Machine Learning · Deep Learning · OpenCV · Keras · PyTorch · Pandas · Arduino · Android Studio

Programming Languages

C · C++ · Python · Java · XML · SQL · LateX

Projects

GeoLifeClef (github.com/pbcpraveen/GLC19)

Project Team Member — *Mar 2019 - Present*

- This is a research project that is conducted a competition as a part of International conference (ImageClef)
- The aim of the research is to find the occurrence of all species for the particular latitude and longitude
- The current planned model is a deep ResNet architecture with 152 layers

Automatic Number Plate Recognition System (github.com/pbcpraveen/NumberPlateRecognition)

Project Assistant — *Dec 2018 - Present*

- APNR is a model that aims to automate the entry of the vehicle information in the data base
- The model locates the exact location of the number plate in the given image and recognizes it
- The project employees two CNN models , one to validate the selection of number plate from the image and another for the Optical Character Recognition (OCR) part.

Flight Delay Prediction(https://drive.google.com/drive/u/0/folders/16mosiQ5M9Zx-mxfexw0lhBbyKfjrAc-h)

Personal — *Jan 2018 - Present*

- This is a research project that aims to predict the delay of the fight based on the weather condition and time of departure
- There are two different dataset containing the information of flight and weather. The task is merge these two datasets and preprocess them such that it is applicable to the model used for classification and regression task.

Machine Hand: Arduino

Team Memeber — *Sep 2019*

- Machine hand is an Arduino project that translates the motion of human hand into a robot hand.
- The Data required for simulation is collected from a IMU sensor that is attached to a person's hand and the motion is simulated by a servo attached to the robot hand.

Tic-Tac-Toe: Android Application

Team Memeber — *Oct 2018*

- Tic-Tac-Toe is our take on the classic game tic toc toe.
- The game offers a single playes mode with 5 level of difficulties.

Air Hockey: Game in C++(github.com/pbcpraveen/Air-Hockey)

Team Leader — *Nov 2016 - Jan 2017*

- Air Hockey is a our take on the game commonly played in many amusement places.
- The project employees C-garphics and a C++ file handling system to give absolute smoothness in the working
- The game also provides a single player mode with 4 varying level of difficulties.

Extracurricular Activity

I-CELL Community -SSN

SSN College of Engineering

Speaker — *Jan 2019 - Feb 2019*

- Gave a series of four lectures on the mathematical framework of Artificial Neural Network.
- Practically demonstrated the importance of convolution in deep learning by using some of the famous features vectors as kernels.
- Introduced the audience the intuition of Convolution Neural network.

Computational Thinking Workshop

SSN College of Engineering

Organizing Committee Member & Workshop host — *Aug 2018*

- Conducted workshop for first year under graduates that reinforces the importance of computational thinking
- Hosted a 4 hour workshop session on android development using 'Thunkable'